

AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION:

Please replace paragraph [0011] with the new paragraph as follows:

[0011] To achieve these objects and other advantages and in accordance with the purpose of the invention, as embodied and broadly described herein, an image interpolating method according to an aspect of the present invention includes a step (a) of searching an edge direction to be used for interpolation by a pixel matching using input pixels and a step (b) of generating a pixel to be substantially interpolated by referring to pixels located on the searched edge direction.

Please replace paragraph [0012] with the new paragraph as follows:

[0012] Preferably, according to an aspect of the invention the step (a) determines the edge direction as 0° direction at a flat region having a less variation of a signal and a texture part having a severe variation of the signal.

Please replace paragraph [0013] with the new paragraph as follows:

[0013] Preferably, according to an aspect of the invention the step (a) measures an error of each of the edge directions using a measurement function and determines a direction having a minimum error value of the errors as a final edge direction.

Please replace paragraph [0014] with the new paragraph as follows:

[0014] Preferably, according to an aspect of the invention the step (a) searches the edge direction having a minimum error by matching

pixels located at upper and lower lines of a pixel to be interpolated for a vertical interpolation.

Please replace paragraph [0015] with the new paragraph as follows:

[0015] More preferably, according to an aspect of the invention the step (a) outputs a relative horizontal coordinate as a result of a vertical pixel matching in accordance with the searched edge direction.

Please replace paragraph [0016] with the new paragraph as follows:

[0016] Preferably, according to an aspect of the invention the step (a) searches the edge direction having a minimum error by matching pixels located at right and left to a pixel to be interpolated for a horizontal interpolation.

Please replace paragraph [0017] with the new paragraph as follows:

[0017] More preferably, according to an aspect of the invention the step (a) outputs a relative vertical coordinate as a result of a horizontal pixel matching in accordance with the searched edge direction.

Please replace paragraph [0018] with the new paragraph as follows:

[0018] Preferably, according to an aspect of the invention the edge direction search and interpolation in the steps (a) and (b) are carried out independently in vertical and horizontal directions, respectively.

Please replace paragraph [0019] with the new paragraph as follows:

[0019] Preferably, according to an aspect of the invention when an input image is interpolated into various multiples, and when a crossing location between the extended line along the determined edge direction from the location of the pixel to be substantially interpolated and horizontal (vertical) line in case of vertical (horizontal) interpolation fails to coincide with a location of an original sample, the step (b) includes further steps of preparing interpolation pixels in a horizontal direction by referring to a plurality of pixels adjacent to the crossing in the same edge direction and preparing the pixel to be substantially interpolated by referring to the horizontally interpolated pixels.

Please replace paragraph [0021] with the new paragraph as follows:

[0021] Preferably, according to an aspect of the invention the vertical interpolation unit includes a vertical pixel matching unit determining the edge direction having a minimum error by matching pixels located at upper and lower lines of a pixel to be interpolated using a measurement function and outputting a relative horizontal coordinate as a result of a vertical pixel matching in accordance with the determined edge direction and a vertical interpolation filter unit carrying out an interpolation in a vertical direction using the input pixels, 1-line-delayed pixel, and pixels located at the relative horizontal coordinate of the vertical pixel matching unit.

Please replace paragraph [0022] with the new paragraph as follows:

[0022] Preferably, according to an aspect of the invention the horizontal interpolation unit includes a horizontal pixel matching unit determining the edge direction having a minimum error by

matching pixels located at right and left to a pixel to be interpolated using a measurement function and outputting a relative vertical coordinate as a result of a horizontal pixel matching in accordance with the determined edge direction and a horizontal interpolation filter unit carrying out an interpolation in a horizontal direction using the input pixels, a plurality of pixels delayed sequentially by line delay units respectively through a plurality of line memories, and pixels located at the relative vertical coordinate of the horizontal pixel matching unit.

Please replace paragraph [0024] with the new paragraph as follows:

[0024] Preferably, according to an aspect of the invention the step (a) carries out the first interpolation on the input pixels using bilinear interpolation.

Please replace the following subtitle with the new subtitle on page 9, before paragraph [0037] as follows:

DETAILED DESCRIPTION OF THE INVENTION PREFERRED EMBODIMENTS

Please replace paragraph [0068] with the new paragraph as follows:

$$[0068] \quad \hat{f}(m, n') = \begin{cases} f(m, \frac{n'}{2}), & \text{when } n' \text{ is even number} \\ \left[f(m + d_x, \frac{n'-1}{2}) + f(m - d_x, \frac{n'+1}{2}) \right] / 2, & \text{when } n' \text{ is odd number} \end{cases}$$

$$\hat{f}(m, n') = \begin{cases} f\left(m, \frac{n'}{2}\right), \text{ for even values of } n' \\ \frac{f\left(m + \hat{d}_x, \frac{n'-1}{2}\right) + f\left(m - \hat{d}_x, \frac{n'+1}{2}\right)}{2}, \text{ for odd values of } n' \end{cases}$$

Please replace paragraph [0084] with the new paragraph as follows:

[0084] Besides, ~~[[The]]~~ the same method may be applicable to the horizontal interpolation.